

**Armed Forces Communications and Electronics Association
(AFCEA)**

Panel presentation—6 Dec 2000

**“Telemedicine: Enabling 21st Century Business Strategies in
Health Care”**

Now that I have you listening.

Good Afternoon and Aloha!

I am Major General Nancy Adams, the panel moderator
for

**“Telemedicine: Enabling 21st Century Business
Strategies in Health Care”**

The medical community is pleased to participate in
AFCEA's 15th Annual International Conference &
Exposition...TechNet Asia-Pacific 2000 Conference. Our
purpose this afternoon is to offer insight on the status and
challenges encountered when using telemedicine
technologies for the delivery of patient care.

My full time assignment is Commanding General, Tripler Army Medical Center, Hawaii, and the United States Army Pacific Command Surgeon. Responsibility for delivery of health care to a region as big as the Pacific requires me to use and support the development of telemedicine tools that transcend the barriers presented by time and distance. In addition to the quantifiable challenges presented by time and distance, there are three other metrics that have to be included when you are affecting the delivery of health care services. They are quality, access and cost.

When telemedicine is utilized it must improve the quality of care. In terms of our responsibility to the patient as well as the provider's accountability, you cannot utilize technology that adversely affects the quality of care.

In other words the care must be equal to or even better than if the provider was not applying the technology. An example of this is using teleradiology to send an x-ray to the radiologist.

The validity and reliability of the reading must be the same whether it is done remotely or the radiologist is on site.

Telemedicine enhances the physician abilities rather than replacing or eliminating the physician's participation in the patient's care.

Access is another parameter for evaluating the value of telemedicine. Using telemedicine to provide care does indeed improve access because the information can be immediately communicated to the provider and care rendered. The cost, delay, and inconvenience of travel are eliminated. Cost is the area where the result is too early to call. Telemedicine is expensive. Elimination of travel costs is the only dollar offset. It takes many, many trips from far away places to justify the sunk cost in telemedicine. However, we are early in its implementation. As costs decrease and use increases we will be better able to assess the cost effectiveness of telemedicine. It may never be truly cost effective.

The greatest value may be in the ability of telemedicine to assist DOD to provide the same quality and access to care for beneficiaries in remote locations that we are privileged to have in metropolitan areas.

Our focus for this panel presentation is the Department of Defense medical activities in the Pacific. Our region contains significant distances, time zone disparities, and geographic boundaries that present challenges to the delivery of patient care. In Hawaii in addition to the US forces dispersed throughout the Pacific and Asia there are a variety of both public and private sector agencies involved in health care services. As an entity of the federal government it is incumbent upon the Department of Defense to work collaboratively to be responsive to health care requirements in remote areas where often no other assistance or assets are available. In both emergencies and for routine health care delivery health care services in the area can be expanded by innovative technology and telecommunication solutions.

I would like to offer a few examples of how the linkage between information systems and technologies have enhanced access to health care services and improved the quality of care rendered.

Tripler Army Medical Center is the only Department of Defense tertiary care medical treatment facility in the Pacific. Tripler serves the health care needs of more than 800,000 active-duty military, their families, military retirees, retiree families and other pacific island beneficiaries. We have DOD beneficiaries in Guam, Japan, Okinawa, and Korea in addition to individuals who are assigned in areas that have no military medical treatment facilities.

Clinicians in my command are using telemedicine for consultations between primary care practitioners in the Pacific and Tripler. Using store and forward intranet technology, primary care practitioners in Korea send an electronic patient consultation to a pediatrician at Tripler.

The Tripler pediatrician is able to view patient information and images to make a patient assessment, as well as converse with the primary physician if needed. The Tripler pediatrician confers with fellow specialists at Tripler for diagnosis and treatment planning. The specialist determines a diagnostic opinion and suggested treatment plan, which is sent back to the primary care clinician in Korea.

In many cases, the patient care services can be delivered to the patient without any disruption to the family, without air evacuation to Hawaii, and the primary care practitioner has increased knowledge due to the collegial interaction with the specialist.

The 17 November issue of Pacific Business News outlined another example of how Tripler Army Medical Center is pushing the envelope on medical technology. We are using teleproctoring and the Internet to expand services to remote areas thousands of miles from Oahu.

Teleproctoring is a type of telemedicine that uses a specialty surgeon to guide an operation performed by a general surgeon located in a remote site. We have tested this capability within the walls of Tripler with success, and are now ready to set-up a demonstration with Naval Hospital Guam. The demonstration will concentrate on exporting specialized surgeon services to the general surgeons. A known need in Guam is for a neurosurgeon to be available to the general surgeon on Guam when they have to do burr holes for an acute head injury. The patient could be either a military beneficiary or a civilian emergency.

A final example that supports direct patient care, as well as our readiness mission, is the teleradiology link between Tripler Army Medical Center, Schofield Barracks, and Pohakuloa Training Center on the big island of Hawaii that went live in October of this year. As you know, Pohakuloa Training Center, or PTA, is the largest training area in the Pacific, and it is located in the saddle between Mauna Loa and Mauna Kea.

This high desert environment offers training opportunities for all Services, to include active duty, Reserve, and National Guard. Medical specialists with varying expertise (typically a basic medic and a physician assistant) are assigned to the PTA medical facility to provide basic healthcare services during the training exercises. The patient care requirements range from minor heat exhaustion to trauma support, where the nearest hospital is 25 miles away in Waimea, or 35 miles in Hilo, and no specialists are on site at PTA.

The telemedicine capability was put in place to augment the medical team at PTA with primary care expertise and radiological services, with the hope that air evacuation to the local hospital could be avoided and service members would still receive expert quality care.

Since its activation in July, the telemedicine link at PTA has avoided 13 evacuations, representing an estimated cost saving of approximately \$20,500 (cost estimates based on ER visit and x-ray cost avoidance).

Another savings that is difficult to quantify but very important to the military is that when the medevac helicopter is on a mission, training has to cease until the medevac returns. Tripler provided readings of 32 x-rays, and 33 patients were referred for more definitive care. A detailed story about this project is published in the current issue of Military Medical Technology.

From my perspective as a military medical center commander and the Pacific Command Surgeon, healthcare information technologies and telemedicine contribute to the readiness of military medicine.

I mention this as a single mission, because the role of military medicine is to stay trained and ready for contingency operations that directly support the US military. Health care as a stand-alone entity is not our focus.

It is the synergistic partnership between readiness and health care delivery that makes military medicine vital to our nation.

I will now move on to the other panelists and the real experts for greater depth in the use and value of telemedicine:

COL Rosemary Nelson, will define telemedicine & give examples of how telemedicine applications are used in the healthcare delivery process, and the business implications of where this technology is going.

Mr. Frank Fukunaga, Vice President Pacific Operations, MELE & Associates, will address conducting needs assessment and telemedicine strategic plans from several angles: what is a needs assessment, how to create and update the strategic plan to meet future healthcare enterprise business objectives, and, how to demonstrate value to decision makers.

Mr. Don Northam, Principal, KSJ & Associates, Inc., will address sustainment of the telemedicine initiative, return on investment business cases, achievement of value from telehealth investments and communicating this value to enterprise decision makers and trustees.

These three panelists illustrate the effective partnership that exists between military medicine and our civilian contractors to make telemedicine in the Pacific a reality.

CLOSING:

I think our panelists have shown how the utilization of information systems and telemedicine eliminates space and time barriers. The result is the ability to provide immediate access to clinical information that has the potential to be life saving or at least enhance health care delivery in areas that are underserved. These technologies project medical specialty expertise without deploying them from their location. This saves significant dollars by NOT taking the specialist away for a minimum of two days travel to do a day's work. In addition, for those clinicians who are forward deployed, the access to specialists decreases their professional isolation and improves their decision-making ability.

Healthcare information technologies are a strategic tool for health care services within the Department of Defense and the private sector because of the need to overcome the dispersion of patients over great distances.

The telehealth possibilities are highly opportunistic, must be planned for, and provide a means to shaping the future. Healthcare information technologies add another option to the business of health care delivery. For quality, access and cost, do we move patients to the physicians; have physicians travel to see patients or move information in order to eliminate the travel of both patients and providers? I hope you will keep these questions in mind as you attend other AFCEA sessions and lead you to take an active role to assist us in further defining telemedicine technologies.